

-- ABSTRACT OF THE INVENTION

A manufacture and methods are provided for a field emission cathode and field emission display comprising a conjugated polymer material.

The manufacture of the invention comprises a conjugated polymer material, which may include substituted polythiophene, polyalkylthiophene, and poly-3-octylthiophene. A polymer material layer may be formed by distributing a conjugated polymer material and a solvent onto a substrate. The solvent may be evaporated under a vacuum. The polymer layer may be molded to include projections to promote field emission. Additionally, the polymer material may be doped with an electron donor material.

Methods according to the invention include the steps of forming a polymer layer comprising conjugated polymer material on a substrate, distributing a polymer solution including a solvent onto the substrate, evaporating the substrate, and shaping the surface of the polymer layer by use of a mould.--

In the Claims:

Please cancel claims 1-17 without prejudice.

Please add claims 18 through 34 as follows:

18. A field emission cathode comprising a polymer material forming a field emission surface.

19. The field emission cathode of claim 18 wherein said polymer material is a conjugate polymer material.